920584-906018

IN UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF	)	
	)	Examiner: Sahera HALIM
Clive C Hayball	)	
	)	Group Art Unit No. 2157
SERIAL NO. 09/747,698	)	
	)	
FILED: December 22, 2000	)	Confirmation No. 9931
	)	
FOR: NETWORK PROXY APPARATUS AND METHODS	)	
	)	

RESPONSE TO OFFICE ACTION OF FEBRUARY 28, 2007

Honorable Director of Patents and Trademarks
P O Box 1450
Alexandria, VA 22313-1450

Dear Sir

In response to the Office Action of February 28, 2007, it is requested that the application be amended as follows:

IN THE CLAIMS

1. (Currently amended) A method of indexing the location of content cached within [[in]] an IP-based network comprising:-

(a) intercepting data traffic flowing from a source node to a destination ~~location~~ node in the network, the data traffic including content to be ~~stored~~ cached at the destination ~~location~~ node,

(b) extracting identity information for the content and associated destination location information for the destination node where the content in the data traffic is to be cached from the data traffic,

(c) generating a mapping from the content identified by the extracted identity information to the destination node ~~location~~ identified by the associated destination location information, and

(d) storing the mapping in a content index database which is operable to provide an instance mapping containing a list of destination ~~locations~~ nodes at [[to]] which the content has been ~~transmitted~~cached, the instance mapping being provided in response to an instance request containing the identity information for the content.

2. (Previously presented) A method according to claim 1, wherein the step of intercepting data traffic is carried out by intercepting data traffic flowing into a cache, and wherein the method further comprises advertising the content identities for which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

3. (Previously presented) A method according to claim 2, wherein the method further comprises recording the time of data traffic flows into the cache which are related to a particular content item and calculating the time period between a first flow of the content item into the cache and a subsequent flow of the content item into the cache thereby to assess how long items are held in the cache before

they are expired and deleting the mapping relating to that content item when that content item is judged to have expired in the cache.

4. (Currently amended) A method according to claim 1, wherein the step of intercepting data traffic is carried out by intercepting data traffic flowing out of an original content source node.

5. (Currently amended) A method according to claim 4, wherein the method further comprises receiving an advertising message which advertises a mapping generated elsewhere on the network and which is related to content items stored in the original content source node, and augmenting the content index using information contained in the advertising message.

6. (Previously presented) A method according to claim 1 wherein the step of intercepting data traffic is carried out by intercepting content requests issued by a cache, and wherein the method further comprises advertising the content identities for which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

7. (Withdrawn) A method of retrieving content in an IP-based network comprising the steps of:-

(a) intercepting a content request containing information related to the identity of a content item and a specified source location for the content item,

(b) sending an instance request to a content index associated with the specified source location, the instance request including the identity of the requested content,

(c) receiving an instance mapping from the content index which contains a list of instances and associated locations for the requested content,

(d) selecting the best instance of the content from the list,

(e) obtaining the requested content from the location associated with the best instance of the requested content, and

(f) returning the requested content to the requester of the content.

8. (Currently amended) A proxy for an IP-based network comprising:-

(a) a data input operable to receive data ~~intended~~ transmitted from a source node to ~~for~~ a destination ~~location~~ node from the network, the data including content to be ~~stored~~ cached at the destination location,,

(b) a data output operable to send data including the content to the network,

(c) an identity extractor operable to analyse data received at the data input and to extract, from the data, identity information for the content,

(d) a location extractor operable to analyse data received at the data input and to extract, from the data, location information for the destination node where the content in the data is to be cached ~~location~~,

(e) a mapping generator operable to generate a mapping from a content item identified by identity information provided by the identity extractor, to at least one destination ~~location~~ node where ~~for~~ the content is to be cached, the at least one destination node ~~location~~ identified by associated destination location information provided by the location extractor, and

(f) a content index database operable to store a mapping provided by the mapping generator and which is operable to provide an instance mapping containing a list of destination nodes ~~locations to~~ at which the content has been cached ~~transmitted~~, the instance mapping being provided in response to an instance request containing an identity of the content item.

9. (Withdrawn) A proxy for an IP-based network comprising:-

(a) a data input operable to receive data from the network,

(b) a data output operable to send data to the network,

(c) a location requester operable to identify a request for a content item in data received at the data input and to send an instance request to a content index associated with the source location of the content item specified in the content request, the instance request including the identity of the requested content, and

(d) a content returner operable to receive an instance mapping from the content index which contains a list of instances and associated locations for the requested content, to select the best instance of the content from the list, to obtain the requested content from the location associated with the best instance of the requested content, and to return the requested content to the requester of the content.

10. (Withdrawn) An advertising message for transmission over an IP-based network, the message being arranged to advertise a replica content item and a location for that item.

11. (Withdrawn) An instance request for transmission over an IP-based network, the request including a destination address and the identity of a requested content item, the destination address being a different address to the address of the source location of the content item.

12. (Cancelled)

13. (Currently amended) A computer program, stored on computer readable medium, which when executed an apparatus indexes content in an IP-based network by:-

(a) intercepting data traffic flowing from a source node to a destination ~~location~~ node in the network, the data traffic including content to be ~~stored~~ cached at the destination node~~location~~,

(b) extracting identity information for the content and associated destination location information for the destination node where the content in the data traffic is to be cached from the data traffic flow,

(c) generating a mapping from the content identified by the extracted identity information to the destination node ~~location~~ identified by the associated destination location information, and

(d) storing the mapping in a content index database which is operable to provide an instance mapping containing a list of destination nodes at ~~locations to~~ which the content has been cached~~transmitted~~, the instance mapping being provided in response to an instance request containing the identity of the content.

14. (Withdrawn) A computer program which when executed retrieves content in an IP-based network by:-

(a) intercepting a content request containing information related to the identity of a content item and a specified source location for the content item,

(b) sending an instance request to a content index associated with the specified source location, the instance request including the identity of the requested content,

(c) receiving an instance mapping containing a list of instances and associated locations for the requested content,

(d) selecting the best instance of the content from the list,

(e) obtaining the requested content from the location associated with the best instance of the requested content, and

(f) returning the requested content to the requester of the content.

REMARKS

Claim Rejections – 35 USC § 101

Claim 13 has been amended to recite "a computer program stored on a computer readable medium". Applicant therefore submits that the claim relates to statutory subject matter.

Claim Rejections – 35 USC § 102

Claim 1 has been amended to further clarify the features of the present invention and the differences between the presently claimed invention and the documents cited by the Examiner.

Claim 1 recites the step of "intercepting data traffic flowing from a source node to a destination node in the network, the data traffic including content to be cached at the destination node".

Applicant submits that Colby does not teach or even suggest this feature. As admitted by the Examiner the data traffic that is intercepted is a client request for content (Colby page 1 paragraph 0010 and 0062). The client request message would not include content to be cached at the destination node as required by Claim 1.

Claim 1 also recites the feature of "extracting identity information for the content and associated destination location information for the destination node where the content in the data traffic is to be cached from the data traffic". As discussed previously Colby intercepts a client request message rather than the data carrying the content itself. Thus, the skilled person upon reading Colby would not learn to extract destination location information for a destination node from data traffic including the content to be cached.

Applicant therefore submits that Colby does not disclose or even suggest "extracting identity information for the content and the associated destination location information... from the data traffic" including content to be cached at the destination node as claimed in Claim 1.

Applicant therefore submits that as Colby does not teach the method as claimed in Claim 1, but teaches an alternative method of extracting information from client request messages, Colby does not anticipate nor render obvious Claim 1.

Claims 8 and 13 have features corresponding to those discussed above. Applicant therefore submits that, for at least the reasons given above, Claims 8 and 13 are not anticipated by, nor rendered obvious by Colby.

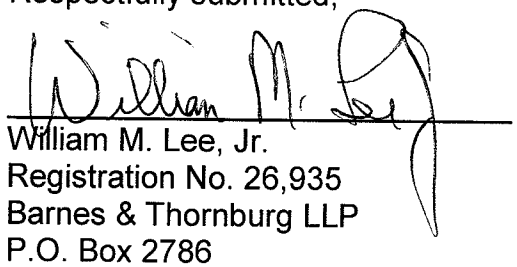
Applicant also submits that Claims 2 to 6 are not anticipated by Colby at least by virtue of their dependencies.

Given the above, further and favorable reconsideration is requested.

A petition for extension of time is also submitted herewith.

DATE: November 2, 2007

Respectfully submitted,



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